BPA AND Y2K

JANUARY 1999

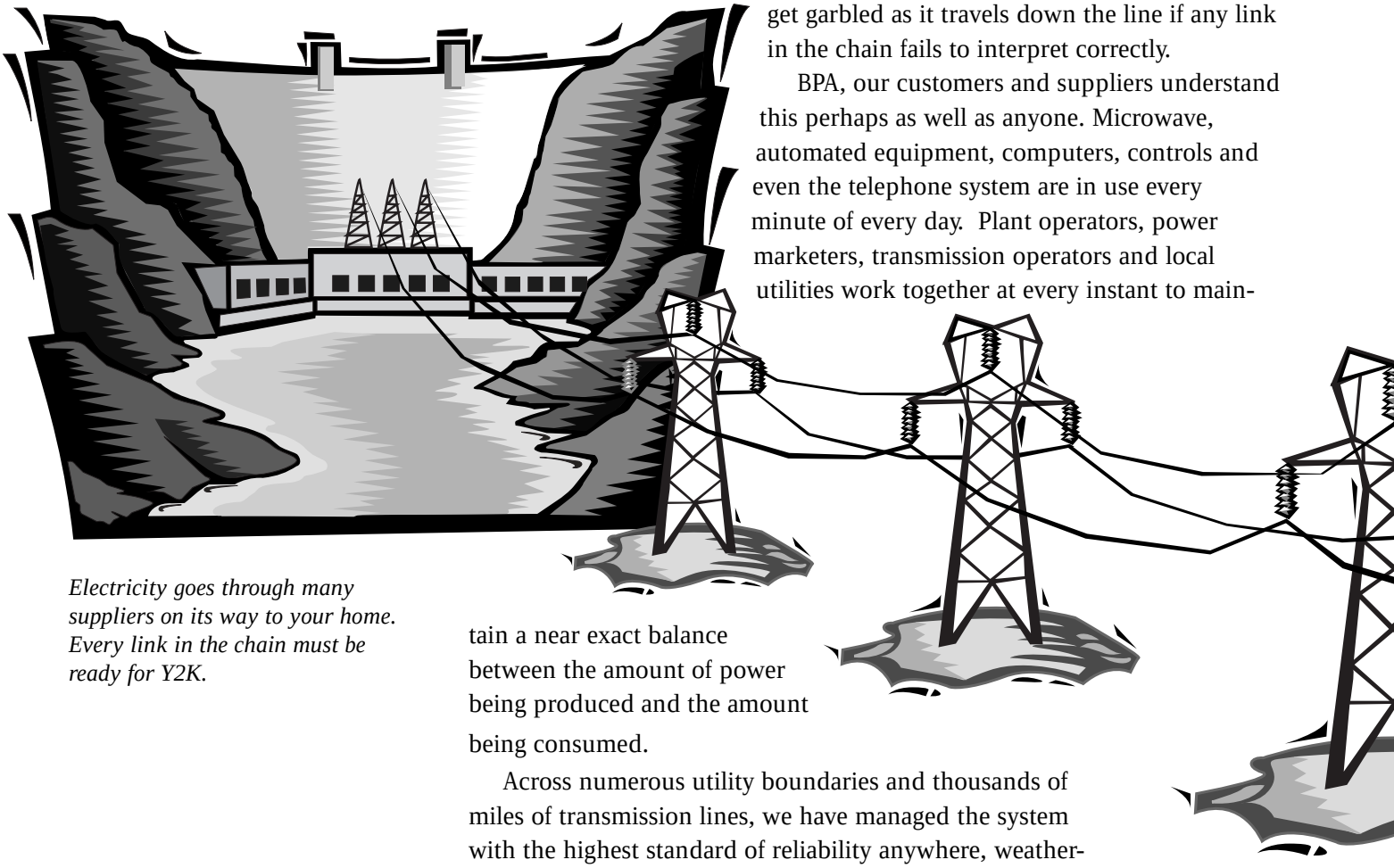
A quarterly status report for BPA customers, constituents, employees and the public on BPA's Year 2000 readiness

BPA working together with our business partners to prepare for Y2K

We live in an interconnected world. Telephone lines, transmission wires, satellites and the internet send vital information back and forth everywhere in the world every second of every day. The information helps our daily world to run.

And any child who's ever played "telephone" knows that information can get garbled as it travels down the line if any link in the chain fails to interpret correctly.

BPA, our customers and suppliers understand this perhaps as well as anyone. Microwave, automated equipment, computers, controls and even the telephone system are in use every minute of every day. Plant operators, power marketers, transmission operators and local utilities work together at every instant to maintain a near exact balance between the amount of power being produced and the amount being consumed.



Electricity goes through many suppliers on its way to your home. Every link in the chain must be ready for Y2K.

Across numerous utility boundaries and thousands of miles of transmission lines, we have managed the system with the highest standard of reliability anywhere, weathering winter storms and restoring service quickly time after time when emergencies hit.

BONNEVILLE POWER ADMINISTRATION

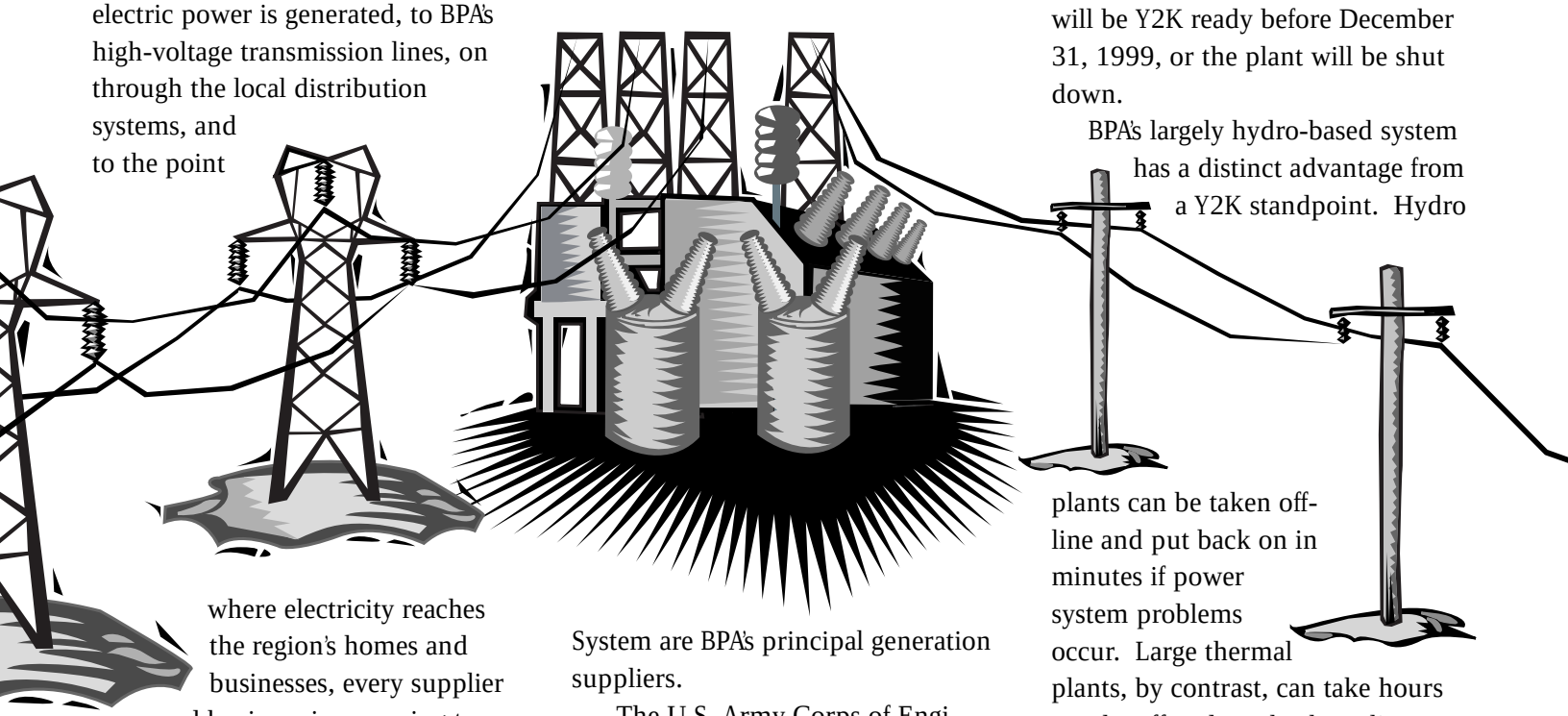
Progress Report: BPA's Y2K Readiness

(This status report will be updated and printed in every issue of BPA and Y2K.)

Milestones	Target	Status
Conduct inventory	August 1998	Completed July 1998
Develop Y2K testing guidelines	August 1998	Completed August 1998
Assess risk	September 1998	Initial assessment completed May 1997 Updated assessment completed October 1998
Develop test plans	October 1998	Completed October 1998
Test components	January 1999	On schedule
Test systems and implement Y2K solutions (including re-testing)	March 1999	On schedule

All this was good training for the computer challenge of the late 20th century – Y2K. Every link in the chain must be ready.

From the power plants where electric power is generated, to BPA's high-voltage transmission lines, on through the local distribution systems, and to the point where electricity reaches the region's homes and businesses, every supplier and business is preparing to provide our standard safe and reliable power supply on Jan. 1, 2000 and other key Y2K dates.



Y2K readiness at the generating plants

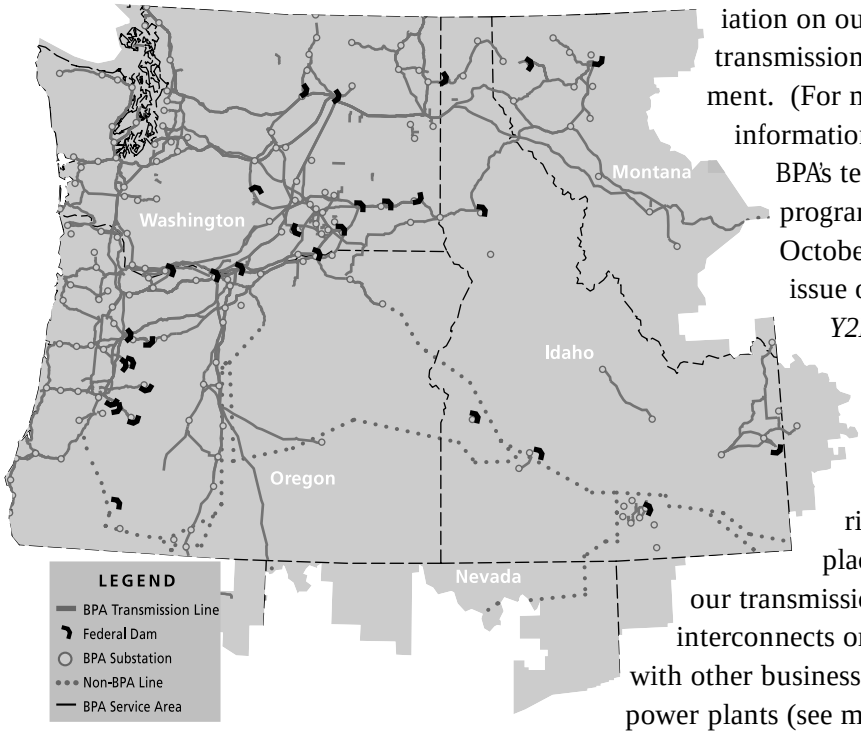
The U.S. Army Corps of Engineers, the Bureau of Reclamation and the Washington Public Power Supply System are BPA's principal generation suppliers.

The U.S. Army Corps of Engineers and the Bureau of Reclamation own and operate the the 29 federal dams on the Columbia and Snake Rivers. Both the Corps and Bureau have their own comprehensive Y2K remediation and testing programs. BPA, the Corps and Bureau are also planning "end-to-end" tests of the critical generation and communications and control equipment to comfirm that all the components are Y2K ready and that the entire system functions normally.

The Supply System owns and operates the nuclear plant, WNP-2, which provides about 10 percent of BPA power supply. Plant technicians have identified 2,000 pieces of date-sensitive equipment and 400 software programs that might be affected by Y2K, and are in the process of testing, remediating and upgrading as necessary.

The Nuclear Regulatory Commission requires its licensees (including the Supply System) to certify their Y2K readiness by July 1, 1999. If a plant is not Y2K ready by that date, the NRC requires that a schedule be provided with assurance the plant will be Y2K ready before December 31, 1999, or the plant will be shut down.

BPA's largely hydro-based system has a distinct advantage from a Y2K standpoint. Hydro plants can be taken off-line and put back on in minutes if power system problems occur. Large thermal plants, by contrast, can take hours to take off and put back on-line. Also, most hydro projects have fewer complex digital control systems than conventional thermal plants, so there



Interconnection points – between dams and BPA's transmission grid and between BPA's lines and other utilities – are key to Y2K readiness.

are fewer computerized operations to address. Nuclear plants, too, make only limited use of computers in systems essential to plant safety and continued operation.

Y2K readiness on BPA's transmission grid

BPA owns and operates almost 80 percent of the high-voltage transmission lines in the Pacific Northwest. We have a thorough and methodical program for Y2K testing and remediation on our own transmission equipment. (For more information about BPA's testing program, see the October 1998 issue of *BPA and Y2K*.)

In addition, BPA has inventoried the places where our transmission grid interconnects or interacts with other businesses – at power plants (see map), adjacent transmission grids, customer substations and even the telephone company – and is collaborating with them on Y2K readiness.

All BPA control cen-ters, major substations, major generation and large utilities have dedicated communications systems and use analog microwave. Some of BPA's smaller substations lease telephone service from local companies, and BPA is working with those telephone companies locally.

West coast suppliers cooperate on Y2K reliability

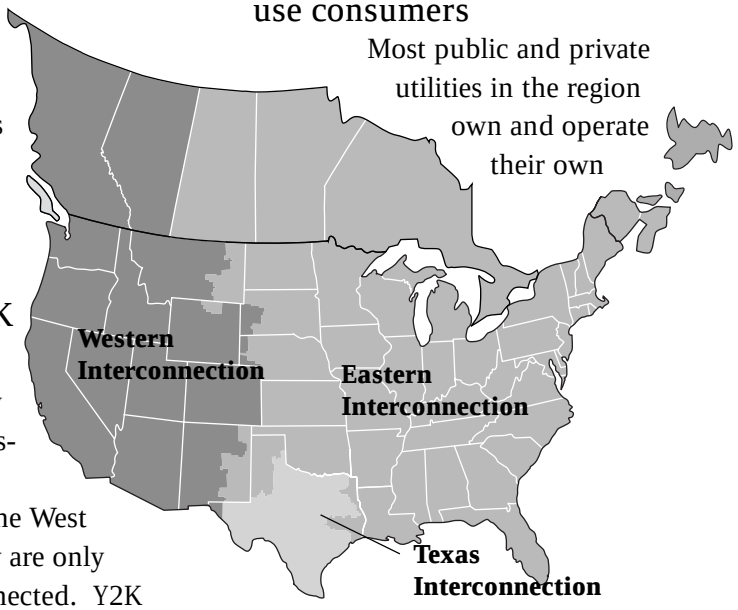
There are actually only three main transmission grids in the U.S. – the East, the West and Texas. They are only weakly interconnected. Y2K coordination is most important among the electric companies within each main grid.

The Western Systems Coordinating Council is the electric reliability organization for the western U.S. WSCC is leading the Y2K coordination among 13 states and 31 control areas that make up the western grid. It has established a Y2K task force that, in addition to sharing information and supporting members' Y2K testing and remediation, is planning operations for critical Y2K dates. WSCC is conducting training and drills in preparation for Y2K, focusing on coordination and communication among the security coordinators of the various control areas. (Security coordinators are responsible for the reliable operation of the power system within large regional areas.)

On the national level, the North American Electric Reliability Council will sponsor two nationwide Y2K drills, planned for April 9 and Sept. 8 of 1999, for utilities to test the functioning of interconnections and Y2K readiness.

Distribution: the link to end-use consumers

Most public and private utilities in the region own and operate their own



The western transmission grid encompasses 13 states and western Canada, and is largely independent of the other two North American grids.

distribution system. They take the power from BPA substations and, using their own transformers, convert it to a lower-voltage power. Then, they send it along their own lines and poles and through their electric meters to the homes, farms and businesses of their customers. Most distribution equipment is mechanical rather than computer-operated, or else it uses smaller computer systems that do not depend on dates for proper operation.

Where BPA's transmission lines feed into local utilities' systems, a meter is usually installed that uses digital (computerized) operation in order to monitor power sales for billing purposes. BPA has itemized all of these revenue meters and the utility they belong to and is in the process of working with all of the utilities on Y2K readiness for this equipment.

Collaborating on contingency plans

WSCC is in an excellent position to coordinate contingency planning among its widespread and diverse membership. The organization has developed a comprehensive Y2K contingency plan in cooperation with the region's utilities. The plan provides for operating the power system reliably should Y2K disruptions occur.

The WSCC system is designed to handle load or generation losses at any time, and the generators in the WSCC instantly help each other when they occur. In the worst case scenario, where one or more control areas fail, the system automatically disconnects them to localize problems. "Safety net" systems drop load at some sites to preserve the bulk transmission and generation and keep the lights on for the majority of WSCC customers.

BPA is planning for operating our system so we have more "cushion" over the New Years' weekend going into the year 2000. For instance, we may have more generation on-line and more generation in reserve, ready to come on-line if needed. We will also increase staffing at both of our control centers and in the field, over what we would have on a normal New Years' weekend.

We're actually fortunate to be on the West Coast, because clocks roll over 2-3 hours later here than in the rest of the country. NERC will have a system in place to quickly transmit the real-time experiences and actions on the East Coast that night to utilities in other parts of the nation as they prepare for midnight in their own time zones.

Y2K a continues tradition of the electric utility industry's collaboration

It takes a lot of communication, technology, and equipment – and a lot of partnership – to get electricity from the generating plant to the light switch in your home. The electric utility industry's long history of technical excellence and cooperation has made this possible. We have the systems and the know-how in place today to continue this tradition through to the new millennium.

Report concludes Y2K power system impacts will be minimal

In early January, the North American Electric Reliability Council issued its second quarterly report to the Department of Energy, summarizing data reported from virtually all (98 percent) of the 3,200 electric suppliers in the U.S. and Canada on their Y2K readiness. In it, NERC said that ". . .the transition through critical Year 2000 (Y2K) rollover dates is expected to have minimal impact on electric system operations in North America."

"The types of impacts found thus far," the report continued, "do not appear to affect the ability to keep generators and power delivery facilities in service and electricity supplied to customers."

NERC, the umbrella organization for North American wholesale electricity suppliers, reports quarterly to DOE on the Y2K readiness of the nation's electricity industry. The full text of NERC's report is on the internet at www.nerc.com.

Information in *BPA and Y2K* is provided in line with the Year 2000 Information and Readiness Disclosure Act, which "…encourages the disclosure and exchange of information about computer processing problems, solutions, test practices and test results, and related matters in connection with the transition to the year 2000."

BPA and Y2K will be published quarterly. For additional copies or to add a name to the mailing list, please call BPA's Public Information Center, at 1-800-622-4519. Also, visit our Web site at *www.bpa.gov.*; there is a Y2K button on our home page.

Bonneville Power Administration

P.O. Box 3621 Portland, Oregon 97208-3621

DOE/BP-3140 January 1999 6.5M